PATENT

Docket No.: CL/V-32421A

CLAIM AMENDMENTS

Please cancel claims 12-15 and amend claims 1 and 8 as follows:

- 1. (Currently amended) A polymerizable material for making an ophthalmic device in the absence of vinylic monomer, comprising a mixture of: (a) a water-soluble polyvinyl alcohol having crosslinkable groups; and (b) one or more members selected from the group consisting of nanoparticles having a hydrophilic surface, a copolymer-composed-of-hydrophilic vinylic monomer units and hydrophobic vinylic monomer units, and mixtures thereof, wherein said copolymer has a balanced composition of hydrophilic and hydrophobic units, wherein the hydrophilic vinylic monomer units are derived from the group consisting of hydroxy-substituted alkylmethacrylate, hydroxy-substituted alkylacrylate, N-vinyllactams, N,N-dialkyl-methacrylamide, and a mixture thereof; wherein-and the hydrophobic vinylic menomer-units are derived from the group consisting of a C₁-C₁₈-alkylacrylate, a C₁-C₁₈-alkylmethacrylates, a di-C₁-C₇ alkylamino-C₁-C₇ alkylacrylate, an acrylonitrile, a methacrylonitrile, a vinyl-C₁-C₁₈-alkanoate, a C₂-C₁₈alkenes, a C₂-C₁₈-halo-alkenes, styrene, a C₁-C₆-alkylstyrene, a vinylalkylether in which the alkyl moiety has 1 to 6 carbon atoms, a C₂-C₁₀-perfluoralkylacrylate, a C₂-C₁₀perfluoralkylmethacrylates, an acryloxyalkylsiloxane, a methacryloxy-alkylsiloxane, glycidyl methacrylate, butoxyethylacrylate, a mixture thereof, wherein the percentage of the hydrophobic vinylic monomer-units of the copolymer is sufficient high to impart at least one desired physical property to said ophthalmic device, wherein the percentage of the hydrophilic monomer-units of the copolymer is sufficient high to render the copolymer miscible with the water-soluble polyvinyl alcohol, and wherein component (b) is presented in the polymerizable material in an amount sufficient to improve one or more physical properties of the ophthalmic device made from the polymerizable material, wherein the one or more physical properties are selected from the group consisting of stress at break (N/mm2), percentage of elongation at break, toughness or energy to break (N·mm), and susceptibility to fracture.
- 2. (Canceled).
- 3. (Previously presented) A polymerizable material of claim 1, wherein said water-soluble polyvinyl alcohol is a polyhydroxyl compound which has a weight average molecular weight of at least about 2000 and which comprises from about 0.5 to about 80%, based

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on the number of hydroxyl groups in the poly(vinyl alcohol), of units of the formula I, I and II, I and III, or I and II and III

$$\begin{array}{c|c}
 & H_2 & H_2 \\
 & C & C \\
 & C & C \\
 & R_3 & O \\
 & R_1 & R_2
\end{array}$$

in which R is alkylene having up to 12 carbon atoms, R_1 is hydrogen or lower alkyl, R_2 is an olefinically unsaturated, electron-withdrawing, crosslinkable radical having up to 25 carbon atoms, and R_3 is hydrogen, a C_1 - C_6 alkyl group or a cycloalkyl group,

$$\begin{array}{c|c}
H_2 & H_2 \\
C & C \\
\hline
C & C \\
R_3 & O
\end{array}$$
II

wherein R and R₃ are as defined above, and R₇ is a primary, secondary or tertiary amino group or a quaternary amino group of the formula N⁺(R')₃X⁻, in which each R', independently of the others, is hydrogen or a C₁ -C₄ alkyl radical and X is HSO₄⁻, F⁻, Cl⁻, Br⁻, I⁻, CH₃ COO⁻, OH⁻, BF⁻, or H₂PO₄⁻,

$$\begin{array}{c|c}
H_2 & H_2 \\
C & C
\end{array}$$

$$\begin{array}{c|c}
CH & CH \\
R_3 & C
\end{array}$$

$$\begin{array}{c|c}
CH & CH \\
R & N & R_8
\end{array}$$
III

in which R and R_3 are as defined above, and R_8 is the radical of a monobasic, dibasic or tribasic, saturated or unsaturated, aliphatic or aromatic organic acid or sulfonic acid.

4. (Original) A polymerizable material of claim 3, wherein said water-soluble polyvinyl alcohol is a polyhydroxyl compound which has a molecular weight of at least about 2000 and which comprises from about 0.5 to about 80%, based on the number of hydroxyl groups in the poly(vinyl alcohol), of units of the formula I, wherein R₂ is a radical of formula IV or formula V

$$-CO-NH-(R_5-NH-CO-O)_q -R_6 -O-CO-R_4$$
 (IV)

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$$-[CO-NH-(R_5-NH-CO-O)_q - R_6 - O]_p-CO-R_4$$
 (V)

in which p and q, independently of one another, are zero or one, and R_5 and R_6 , independently of one another, are lower alkylene having 2 to 8 carbon atoms, arylene having 6 to 12 carbon atoms, a saturated bivalent cycloaliphatic group having 6 to 10 carbon atoms, arylenealkylene or alkylenearylene having 7 to 14 carbon atoms or arylenealkylenearylene having 13 to 16 carbon atoms, and in which R_4 is an olefinically unsaturated copolymerizable radical having 2 to 24 carbone atoms, preferably having 2 to 8 carbonatoms, more preferably having 2 to 4 carbon atoms.

- 5. (Withdrawn) A polymerizable material of claim 3, wherein said modifier is composed of the nanopaticles having a hydrophilic surface.
- 6. (Withdrawn) A polymerizable material of claim 5, wherein the nanoparticles are nanosized silica fillers.
- 7. (Canceled)
- 8. (Currently amended) A polymerizable material of claim 1, wherein said component (b) is a copolymer-composed of hydrophilic vinylic monomer units and hydrophobic vinylic monomer units, wherein the hydrophilic monomer units of said copolymer are derived from is N-vinyl lactam having a structure of formula (VI)



in which R_{19} is an alkylene di-radical having from 2 to 8 carbon atoms, R_{20} is hydrogen, C_1 - C_7 alkyl, aryl having up to 10 carbon atoms, aralkyl or alkaryl having up to 14 carbon atoms, and R_{21} is hydrogen or lower alkyl having up to 7 carbon atoms.

- 9. (Original) A polymerizable material of claim 8, wherein said N-vinyl lactam is N-vinyl pyrrolidone.
- 10. (Withdrawn) A polymerizable material of claim 7, wherein said modifier is a N,N-dialkylmethacrylamide copolymer which is a copolymerization product of a N,N-di-C₂-C₄ alkyl methacrylamide with at least one hydrophobic monomer.
- 11. (Withdrawn) A polymerizable material of claim 10, wherein the N,N-di-C₂-C₄ alkyl methacrylamide is N,N-dimethylmethacrylamide.
- 12-46. (Canceled)